Listing of Claims:

Claims 1-21 (cancelled)

Claim 22. (new) A method of forming a conductive line over a workpiece, the method comprising:

forming a dielectric layer having a substantially planar surface;

forming a row of windows in the planar surface of the dielectric layer;

filling each of the windows with plugs comprising electromigration-inhibiting material to form a row of plugs;

removing portions of the dielectric layer to form trenches between adjacent ones of the plugs in the row of plugs;

filling the trenches with highly conductive material, the highly conductive material defining electrically conductive segments interposed between and abutting the plugs and interconnecting the row of plugs to form said conductive line; and

planarizing the workpiece so that the row of plugs and conductive segments have surfaces substantially coplanar with the dielectric layer surface.

Claim 23. (new) The method of claim 22 wherein the plugs each comprises a liner of said electromigration-inhibiting material filled with an electrically conductive material.

Claim 24. (new) The method of claim 22 wherein the electromigration-inhibiting material comprises a refractory metal.

Claim 25. (new) The method of claim 22 wherein step of forming a row of windows comprises forming a row of windows such that the length of each of the electrically conductive segments interconnecting the plugs formed in said windows, is at least a critical length L_c, the critical length selected to inhibit electromigration.

Claim 26. (new) The method of claim 25 wherein the conductive line has a length greater than the critical length and wherein the row includes at least $(L/L_c) - 1$ windows.

Claim 27. (new) The method of claim 22, wherein the workpiece comprises a semiconductor substrate and the dielectric layer comprises a semiconductor compound.

Claim 28. (new) The method of claim 27, wherein the semiconductor substrate comprises a silicon substrate.

Claim 29. (new) The method of claim 27, wherein the dielectric layer comprises a silicon oxide.

Claim 30. (new) A method of forming a conductive line over a semiconductor substrate, the method comprising:

forming on the semiconductor substrate, a dielectric layer having a substantially planar surface;

etching a row of windows in the planar surface of the dielectric layer to extend partly through the thickness of the dielectric layer;

filling each of the windows with plugs comprising electromigration-inhibiting conductive material to form a row of plugs;

etching portions of the dielectric layer to form trenches between neighboring ones of the plugs in the row of plugs;

depositing conductive material to fill the trenches, said conductive material having a specific resistivity less than that of said plugs to form electrically conductive segments interposed between and abutting the plugs to interconnect the plugs; and

planarizing the row of plugs and conductive segments to have surfaces substantially coplanar with the dielectric layer surface, to form said conductive line.

31. (new) The method of claim 30, wherein the semiconductor substrate comprises a silicon substrate and the dielectric layer comprises a silicon compound.

32. (new) The method of claim 30, wherein the electromigration-inhibiting material comprises a refractory metal.

33. (new) The method of claim 30, wherein the conductive segments are at least 100 microns in length and the plugs separate neighboring conductive segments by less than about one micron.

Claim 34. (new) A method of forming a conductive line, the method comprising:

forming a dielectric layer on a substrate;

forming a spaced series of recesses in a surface of the dielectric layer, the recesses having floors between walls extending partly through the thickness of the dielectric layer;

filling the recesses with plugs comprising conductive electromigration-inhibiting material to form a series of plugs;

removing portions of the dielectric layer to form trenches between neighboring ones of the series of plugs;

filling the trenches with conductive material having higher conductivity than that of the elctromigration-inhibiting material, the conductive material defining electrically conductive segments interposed between and abutting the plugs to interconnect the series of plugs; and

planarizing the plugs and conductive segments to form said conductive line substantially coplanar with the dielectric layer surface.

Claim 35. (new) The method of claim 34 wherein filling the windows with said plugs comprises depositing a liner of said electromigration-inhibiting material overlying the floors and walls of each of said windows and depositing electrically conductive material over the liner in each window to form said plugs filling the windows.

Claim 36. (new) The method of claim 35 wherein the electromigration-inhibiting material comprises a refractory metal.

Claim 37. (new) The method of claim 34, including depositing a liner of electromigration-inhibiting material at least over the floors of the trenches before filling the trenches with said conductive material to form said electrically conductive segments.

Claim 38. (new) The method as recited in claim 34, wherein said plugs are at least as wide as the widths of said electrically conductive segments.

Claim 39. (new) The method as recited in claim 38, wherein the conductive segments are at least 100 microns in length and the plugs separate neighboring conductive segments by less than about one micron.

Claim 40. (new) A method of forming a conductive line over a semiconductor substrate, the method comprising:

forming a dielectric layer on the semiconductor substrate;

etching a series of windows in the dielectric layer to extend partly through the thickness of the dielectric layer;

filling each of the windows with plugs comprising electromigration-inhibiting conductive material to form a series of plugs;

removing portions of the dielectric layer to form trenches between neighboring ones of the plugs in the series of plugs;

filling the trenches with conductive material to form electrically conductive segments interposed between and abutting the plugs to interconnect the series of plugs, said plugs providing electromigration-inhibiting barriers between said electrically conductive segments; and

planarizing the row of plugs and conductive segments to have surfaces substantially coplanar with a surface of the dielectric layer to form said conductive line.

Claim 41. (new) The method as recited in claim 40, wherein the electromigration-inhibiting material comprises a refractory metal, the conductive segments are at least 100 microns in length and the plugs are at least as wide as the widths of said electrically conductive segments and separate neighboring conductive segments by less than about one micron.